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Gut microbiota: a key player in health and disease. A review focused on obesity.

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Abstract

Gut microbiota, its evolutive dynamics and influence on host through its protective, trophic and metabolic actions, has a key role in health and opens unique opportunities for the identification of new markers of the physiopathological state of each individual. Alterations in gut microbiota composition have been associated with plenty disorders. Of interest, the vast number of studies demonstrates the role of microbiota in obesity, a serious public health problem that has reached epidemic proportions in many developed and middle-income countries. The economic and health costs of this condition and its comorbidities such as liver, insulin resistance/diabetes, or cardiovascular events are considerable. Therefore, every strategy designed to reduce obesity would imply important savings. Targeting microbiota, in order to restore/modulate the microbiota composition with antibiotics, probiotics, prebiotics, or even fecal transplants, is considered as a promising strategy for the development of new solutions for the treatment of obesity. However, there is still lot to do in this field in order to identify the exact composition of microbiota in "health" and the specific mechanisms that regulate the host-microbiotal crosstalk. In addition, it is important to note that changes not only in the gut microbiota profile (abundance) but also in its metabolism and functions need to be taken into account in the context of contribution in the physiopathology of obesity and related disorders.

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